UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,939	04/24/2001	Mototsugu Abe	09792909-4998	5606

			EXAMINER
26263	7590	04/23/2004	VENT, JAMIE J

SONNENSCHEIN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _24 April 2001_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-53_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-53_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because of the following grammatical errors:

- Page 5 Lines 5 "preset value" differs from line 6 "present value"

- Page 5 Lines 10-12 grammatical error with the words "cannot".

. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites "a means that uses a **multi-layer perceptron**" the applicant claims cannot be found in the accompanying drawings or specification. Examiner would like to know where and what are the multi-layer perceptron and location in specification as well as the drawings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,18,19,22,24,25,26,27,28,29,30,31,32,33,34,

35,36,37,38,39,40,41,42,43,44,47,48,51, and 53 are rejected under 35 U.S.C. 102(b) as

being unpatentable by Nafeh (US 5,343,251).

[claims 1 & 30]

In regard to Claims 1 and 30, Nafeh discloses a signal-processing apparatus and method

comprising:

- Candidate-detecting means for receiving an input signal (Figure 1a line 12)

  including at least the first signal part and remaining signal parts in time-divided

  fashion for detecting, from the input signal (Column 2 Lines 55-62 and Column 5

  lines 41-42), a candidate part of the first signal part in accordance with

  characteristic patterns of the input signal at prescribed time intervals (Column 2

  Lines 64-68 describes the classification of the signals coming into the system at

  predetermined timing);

- Characteristic-extracting means for extracting characteristic data indicating the

  probability of the first signal part from the candidate part or from signal parts

  preceding and following the candidate part (Column 6 Lines 6-12 describe the

  extracting of the data as well as the calculation of the probability of the output

  given the class of the input); and

- Detecting means for detecting the first signal part in accordance with the

  characteristic data extracted by the characteristic-extracting means (Column 6

  Lines 25+ describes a detected program to be 1 while the candidate

  part/commercial is –1).

[claims 2 & 31]

In regard to Claims 2 and 31, Nafeh discloses a signal-processing apparatus and method wherein

detecting means includes characteristic-evaluating means for evaluating the possibility that the

candidate part is the first signal part on the basis of the characteristic data, and determining

means for determining the first signal part from the result of evaluation preformed by the

characteristic-evaluating means (Figure 1a classifier 24 classifies the first part of the signal on

the basis of classing of the characteristic data and thereby generates a control signal for further

evaluation as described in Column 2 Lines 63+ through Column 3 Lines 20-25).

[claims 3 &32]

In regard to Claims 3 and 32, Nafeh discloses a signal processing apparatus and method wherein

the detecting means includes determining means for determining, from the characteristic data,

that the candidate part of the first signal part is identical to the first part which has been

designated (Column 2 Lines 65+ describe that once it is determined that the candidate part of the

signal is classified a control signal is sent out for further determination of other signals if it

identical as well as using the features indicated in Column 3 Lines 28-30).

[claims 4 & 33]

In regard to Claims 4 and 33, Nafeh discloses a signal processing apparatus and method

comprising amplitude-detecting means for detecting an amplitude of the input signal wherein the

candidate-detecting means detects a pattern that the amplitude of the input signal is smaller than

a predetermined value at a predetermined time interval as one of the characteristic patterns

(Column 3 Lines 34-36 "Changes in power or amplitude over the frequency spectrum between

program and commercial segments" and further described in Column 3 60+).

[claims 5 & 34]

In regard to Claims 5 and 34, Nafeh discloses an apparatus and method comprising a change-detecting means for detecting a change of the input signal wherein the candidate-detecting means detects a pattern that the change of the input signal is greater than a predetermined value at a predetermined time intervals as one of the characteristic patterns (Column 3 Lines 40-42 describe detecting the change in pattern of the transmission at a value within the predetermined time intervals and further described in Column 5 Lines 30-37).

[claims 6 & 35]

In regard to Claims 6 and 35, Nafeh discloses an apparatus and method comprising uniform-component detecting means for detecting a unit period in which a prescribed component of the input signals fall within a prescribed range and detects a pattern that is prescribed component of the input signal for the unit period at a predetermined time intervals is uniform as one of the characteristic patterns (Column 1 Lines 44-55 describe the patterns used for detection as well as the predetermined conditions/time that is used for the characteristic patterns).

[claims 7 & 36]

In regard to Claims 7 and 36, Nafeh discloses a method and apparatus wherein the characteristic-extracting means includes an amplitude-detecting means for detecting an amplitude of the input signal, and extracts the amplitude of the signal parts preceding and / or following the candidate as characteristic data indicating probability of the first signal part (Column 3 Lines 20+ describes the extraction of amplitude from the input signal to indicated if a commercial can be detected within the first signal part.)

[claims 8, 10, 11, 12, 22 37, 39, 40, 41 & 51]

In regard to Claims 8, 9, 10, 11, 12, 37, 38, 39, 40, and 41, Nafeh discloses a method and

apparatus wherein the characteristic-extracting means includes an amplitude-detecting means for

detecting an amplitude of the input signal and extracts the length of signal parts, correlation,

mean, and frequency that the amplitudes of the signal parts preceding and/or following the

candidate part are smaller than a predetermined threshold as characteristic data indicating

probability of the first signal part (Column 3 Lines 60+ through Column 4 Lines 1-30 describes

the detection of the amplitude and extraction of length and mean of the amplitude in the input

signal and determination if the candidate part/commercial is within a predetermined condition

which is accomplished through comparisons of the minimum, maximum, mean and the median

of the amplitude.)

[claims 13 & 42]

In regard to Claims 13 and 42, Nafeh discloses a mode-detecting means for detecting a mode of

the input signal that can have a plurality of modes, and extracts the mode of the candidate part as

characteristic data indicating probability of the first signal part (Column 5 lines 30+ describe

detection of modes/features and the extraction of the candidate part/commercial from the

characteristic data/input signal).

[claims 14 & 43]

In regard to Claims 14 and 43, Nafeh discloses a means for extracting existence of the first signal

part in signal that precedes or follows the candidate part as characteristic data indicating

probability of the first signal part (Figure 1A extracts the existence of the commercial while

Column 5 Lines 30+ describe the classification process).

[claims 15 & 44]

In regard to Claims 15 and 44, Nafeh discloses a spectrum-detecting means for detecting a spectrum of the input signal, and extracts a change of the spectrum before or after the candidate part as characteristic data indicating probability of the first signal part (Column 3 lines 20+ describes all the possibilities for detecting the spectrum of the input signal).

[claims 18 & 47]

In regard to Claims 18 and 47, Nafeh discloses a means for identifying a source of the input signal and extracts a type of the source of the candidate part as characteristic data indicating probability of the first signal part (Figure 1A shows the possible input sources while the pre-processor/feature extraction 22 extracts the type of the source of the input data while determining the probability of the signal).

[claims 19 & 48]

In regard to Claims 19 and 48, Nafeh discloses an apparatus and method that comprises a timer for measuring time and the characteristic-extracting means extracts the time at which the candidate part is input as characteristic part is input as characteristic data indicating probability of the first signal part (Column 1 Lines 25+ describe the use of timers to time the candidate part so thereby it wont be recorded onto a video recorder).

[claims 24 & 53]

In regard to Claims 24 and 53, as best understood by the examiner as disclosed by Nafeh discloses a means determine the possibility that the candidate part of the first signal part (Column 6 Lines 25+ describes a detected program to be 1 while the candidate part/commercial is −1).

[claims 25, 26, 27, 28, 29]

In regard to Claims 25, 26, 27, 28, and 29, Nafeh discloses a signal processing apparatus

comprising:

- Recording and / or reproducing the input signal (Figure 1F record mode)

- Editing the input signal (Figure 1F shows the editing process that can occur);

- Skipping the first signal part (Figure 1F shows the skipping mode);

- Extracting only the first signal part (Figure 1 element 22 extracts the first part of

  the signal); and

- Signal consists of an audio signal and/or a video signal (Figure 1 element 12) and

  the first signal part is commercial-message part (Figure 1A element 24 classifies

  if the first signal part is a commercial-message part).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 16, 20, 21,23, 45, 49, 50, and 52 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Nafeh (US 5,343,251) in view of Shah-Nazaroff et al (US 6,671,880).

[claims 16 & 45]

In regard to Claims 16 and 45, Nafeh discloses a means that extracts information but

lacks the extraction of channel information of the input signal selected a channel from a plurality

of channels as characteristic data indicating probability of the first signal part. Shah-Nazaroff

teaches a system that identifies commercials as well as extract channel information and the

likelihood/probability that that the characteristics are within that signal as seen in Figure 4. By

extracting channel information it allows the system to determine

Therefore, it would be obvious to one skilled in the art at the time of the invention to

modify the apparatus/method for classifying patterns of television programs and commercials, as

disclosed by Nafeh, and incorporate a system that extracts channel information, as disclosed by

Shah-Nazaroff et al, which allows for a better computation of the probability of commercials to

be detected through certain channels and how to respond to the commercials.

[claims 20, 21, 49, & 50]

In regard to Claims 20, 21, 49, & 50, Nafeh discloses a means that extracts information

from an input signal but lacks a genre-identifying means for identifying a genre of the input

signal, and extracts the genres of the signal parts preceding and following the candidate part as

characteristic data indicating probability of the first signal part. Shah-Nazaroff et al discloses

extraction of characteristic, such as genres, in order to determine user characteristics which in

turn allows for the probability a certain commercial within that type of program (Column 4 Lines

12+).

Therefore, it would be obvious to one skilled in the art at the time of the invention to

incorporate the extracting information from the input signal, as disclosed by Nafeh, and

incorporate a further extraction means as determining specific genres of the programs and

commercials, as disclosed by Shah-Nazaroff et al, in order for classification and identifying

specific genres associated with the candidate and characteristic data parts of the signal.

[claims 23 & 52]

In regard to Claims 23 and 52, Nafeh discloses a means that evaluates the possibility that the candidate part is the first signal part (Column 2 Lines 64-68 describes the classification of the signals coming into the system at predetermined timing) but lacks a means of evaluation on the basis of characteristic data derived from the multiplying weighting values to the characteristic data and adding the weighted characteristic data. Shah-Nazaroff et al discloses an evaluation means that evaluates commercial data on a weighted system, which allows for the commercial of greatest interest to be aired due to the weighted system.

Therefore, it would be obvious to one skilled in the art at the time of the invention to incorporate the evaluating of information from the input signal, as disclosed by Nafeh, and incorporate a further evaluation on the basis of weighted characteristics, as disclosed by Shah-Nazaroff, which would allow commercials and programs that are of higher importance and weighted higher to be broadcast instead of those with lower importance/weight.

Claims 17 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nafeh (US 5,343,251) in view of Kawara et al (US 6,278,836).

[claims 17 & 46]

In regard to Claims 17 and 46, Nafeh discloses a means that extracts information from an input signal but lacks the extraction of an area code of the input signal that can have any one of different area codes as characteristic data indicating probability of the first signal part. Kawara et al discloses a reproducing system that programs information according to area codes that specify a certain area thereby indicating the characteristic data for that particular area as seen in Figure 4. This allows for special programming to occur in various countries due to the recognition of these countries by the area codes.

Therefore, it would be obvious to one skilled in the art at the time of the invention to incorporate the extraction of information, as disclosed by Nafeh, and incorporate a system that takes an input signal that has various area codes that will identify the input signal according to the said area codes, as disclosed by Kawara et al, by incorporating this feature would allow for further identification, classification, and evaluation of the input signal

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Picco et al (US 6029045);

- Hite et al (US 6002393); and

- Hunt et al (US 6128712).

Contact Fax Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

Or faxed to:

703.208.6306 (for formal communication intended for entry)
703.308.5359 (for informal or draft communications, please label "PROPOSED"
        or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).
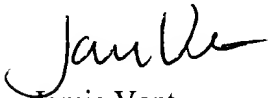
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie J. Vent whose telephone number is (703) 305-0378.

*If any attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor,
Christopher Kelley, can be reached at (703) 305-4856.*

*Any inquiry of a general nature or relating to the status of this application should be directed to
the Group receptionist whose telephone number is (703) 305-4700.*

*Information regarding the status of an application may be obtained from the Patent Application
Information Retrieval (PAIR) system. Status information for published applications may be
obtained from either Private PAIR or Public PAIR. Status information for unpublished
applications is available through Private PAIR only. For more information about the PAIR
system, see http://pair-direct.upsto.gov. Should you have questions on access to the Private PAIR
system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll free).*

Jamie Vent
04/14/2004

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600